AMENDMENTS TO THE CLAIMS

Please amend Claims 2-5, 7-9, 13-15, 18, and 19 as follows, without prejudice or disclaimer to continued examination on the merits:

1. (original): A sampling method for shortening readout time and reducing lag in amorphous silicon flat panel x-ray detectors, the method comprising the steps:

(a) activating a reset switch to discharge any residual signal being held in a feedback capacitor;

(b) deactivating the reset switch;

(c) activating a field effect transistor;

(d) sampling an electrical signal from the amorphous silicon flat panel x-ray detector, while the field effect transistor is activated;

(e) activating a reset switch, after the electrical signal has been sampled and while the field effect transistor is still activated, to discharge any residual signal being held in the feedback capacitor;

(f) deactivating the field effect transistor, while the reset switch is still activated;

(g) deactivating the reset switch; and

(h) repeating steps (c)–(g) as necessary to obtain a predetermined radiographic image.

2. (currently amended): The sampling method of claim 1, wherein the electrical signal is sampled while the field effect transistor is activated ~~in a manner that eliminates,~~ thereby eliminating the need for FET-off settling time before sampling.

3. (currently amended): The sampling method of claim 1, wherein the field effect transistor is deactivated while the reset switch is activated ~~in a manner that reduces,~~ thereby reducing lag, as compared to the lag in conventional amorphous silicon flat panel x-ray detectors.

4. (currently amended): The sampling method of claim 1, wherein the ~~sampling method allows frame rates~~ frame rate is in excess of 30 frames per second ~~to be achieved~~.

5. (currently amended): The sampling method of claim 1, wherein the sampling ~~method requires less line time than conventional amorphous silicon flat panel x-ray detector sampling methods~~ time is less that $1/30^{th}$ of a second per frame.

6. (original): A system for shortening readout time and reducing lag in amorphous silicon flat panel x-ray detectors, the system comprising:

(a) a means for activating a reset switch to discharge any residual signal being held in a feedback capacitor;

(b) a means for deactivating the reset switch;

(c) a means for activating a field effect transistor;

(d) a means for sampling an electrical signal from the amorphous silicon flat panel x-ray detector, while the field effect transistor is activated;

(e) a means for activating a reset switch, after the electrical signal has been sampled and while the field effect transistor is still activated, to discharge any residual signal being held in the feedback capacitor;

(f) a means for deactivating the field effect transistor, while the reset switch is still activated;

(g) a means for deactivating the reset switch; and

(h) a means for repeating steps (c)–(g) as necessary to obtain a predetermined radiographic image.

7. (currently amended): The system of claim 6, wherein the electrical signal is sampled while the field effect transistor is activated ~~in a manner that eliminates~~, thereby eliminating the need for FET-off settling time before sampling.

8. (currently amended): The system of claim 6, wherein the field effect transistor is deactivated while the reset switch is activated ~~in a manner that reduces~~, thereby reducing lag, as compared to the lag in conventional amorphous silicon flat panel x-ray detectors.

9. (currently amended): The system of claim 6, wherein the ~~sampling method allows frame rates~~ frame rate is in excess of 30 frames per second ~~to be achieved~~.

10. (canceled)

11. (original): A sampling method for shortening readout time and reducing lag in amorphous silicon flat panel x-ray detectors, the method comprising: obtaining an electrical sample during a FET-on period, switching to a FET-off period after the electrical sample is obtained, and allowing a RESET-on period to overlap both the FET-on period and the FET-off period for a predetermined period of time.

12. (original): The sampling method of claim 11, wherein the electrical signal is sampled during the FET-on period so that there is no need for the FET-off period before obtaining the electrical sample.

13. (currently amended): The sampling method of claim 11, wherein the FET-off period begins during the RESET-on period to ~~reduce~~ control lag~~, as compared to the lag in conventional amorphous silicon flat panel x-ray detectors~~.

14. (currently amended): The sampling method of claim 11, wherein the ~~sampling method allows frame rates~~ frame rate is in excess of 30 frames per second ~~to be achieved~~.

15. (currently amended): The sampling method of claim 11, wherein the sampling ~~method requires less line time than conventional amorphous silicon flat panel x-ray detector sampling methods~~ time is less that $1/30^{th}$ of a second per frame.

16. (original): A system for shortening readout time and reducing lag in amorphous silicon flat panel x-ray detectors, the system comprising: a means for obtaining an electrical sample during a FET-on period, a means for switching to a FET-off period after the electrical sample is obtained, and a means for allowing a RESET-on period to overlap both the FET-on period and the FET-off period for a predetermined period of time.

17. (original): The system of claim 16, wherein the electrical signal is sampled during the FET-on period so that there is no need for the FET-off period before obtaining the electrical sample.

18. (currently amended): The system of claim 16, wherein the FET-off period begins during the RESET-on period to ~~reduce~~ control lag~~, as compared to the lag in conventional amorphous silicon flat panel x-ray detectors~~.

19. (currently amended): The system of claim 16, wherein the ~~sampling method allows frame rates~~ frame rate is in excess of 30 frames per second ~~to be achieved~~.

20. (canceled)

Please cancel Claims 10 and 20, as indicated above.